Amendments to the Drawings:

Replacement sheets pages 1-10 are submitted.

Remarks/Arguments

Reconsideration of this Application is requested.

The Examiner has objected to the Amendment filed on July 1, 2008, under 35 USC § 132(a) because the Examiner is of the opinion that added material which is not supported by the original disclosure is shown in Fig. 3A.

Paragraph 0009 of Applicant's specification states the following..."c) applying each algorithm from said predetermined set of characterizing algorithms to said filtered image and to said one or more defaced images to generate a plurality of corresponding second characterizing information descriptors for said filtered digital image and one or more pluralities of defaced image descriptors corresponding to each of said one or more defaced images; and d) for each algorithm from said predetermined set of characterizing algorithms, comparing corresponding first characterizing information descriptors with corresponding second characterizing information descriptors and with each of said one or more corresponding defaced image descriptors to determine said estimates of robustness."

Lines 52, 53 and 54 of Fig. 3A are example of defaced image i.e. line 52 is skewed; line 53 is missing a numeral, and in line 54 a horizontal line of black pixels are missing. Thus, no new matter appears in Fig. 3A.

The Examiner has objected to the drawings for failing to comply with 37 CFR § 1.84(p)(4) because reference character 50 has been used to define a pristine image in Figure 3A and a curve accounting for the spacing of the letters in Figure 5.

Replacement sheets for all of the drawings are being submitted herewith with Character 50 replaced by character 550 in Figure 5.

The Examiner has objected to the drawings for failing to comply with 37 CFR § 1.84(P)(4) because reference character 51 has been used to designate both the filtered image in Figure 3A and a segment in Figure 5. Replacement sheets for all of the drawings are being submitted herewith with character 51 replaced by character 551 in Figure 5 .

The Examiner has objected to the drawings for failing to comply with 37 CFR 1.84(P)(4) because reference character 41 is not shown in the drawings.

There is no reference character 41 in the Specification.

The Examiner has objected to the Amendment filed on July 1, 2008, under 35 USC § 132(a) because the Examiner is of the opinion that new matter was introduced into the disclosure.

The following added material is supported by the specification.

a) The definition of robustness ...encountered defects and deformations in paragraph 0002 of Applicant's Specification is in the background of the invention and is a prior art definition.

b) The definition in paragraph 0007 of Applicant's Specification is the same definition that appears in paragraph 0002 of Applicant's Specification. Thus, it is a prior art definition.

c) The expression "(digital image formed... to a printer for printing)" in paragraph 0008 of Applicant's Specification appears in parentheses between filtering a pristine digital image and of said block of printed material with a print/scan filter to create a filtered image, said print/scan filter simulating the expected transformation of said pristine image by printing and scanning process. The material in parentheses summarizes the material present in the Specification.

d) The definition in paragraph 0008 of Applicant's Specification is the same definition that appears in paragraph 0002 of Applicant's Specification. Thus it is a prior art definition.

e) The expression "designed to compute salient features/descriptors of the digital image" that appears in paragraph 0009 of Applicant's Specification appears in parentheses between applying each algorithm from said predetermined set of characterizing algorithms and to said filtered image and to said one or more defaced images to generate a plurality of corresponding second characterizing information descriptors for said filtered digital image and one or more pluralities of defaced image descriptors corresponding to each of said one or more defaced images. The material

appearing in parenthesis summarizes the material appearing in Applicant's Specification.

f) The following appears in paragraph 0024 of Applicant's Specification: "System 22 differs in including data stores 21 and 23 communicating with controller 13 characterizing information. Data store 21 stores a plurality characterizing algorithms, as will be described further below, and data store 23 stores at least a print/scan filter which, when applied to the pristine mage generates a filtered image which approximates the transformation of the pristine image by the printing and scanning processes." It was previously stated that store 21 was used to store a plurality of data and Applicant is now stating the type of data.

g) The expression "... black pixels are missing" in paragraph 0027 of Applicant's Specification is an example of a non-pristine image and is claimed in original claim 15b1-2 which reads as follows, "further filtering said filtered image with one or more defacing filters, said defacing filters simulating simulate blots, smudges, failure of print elements or scanner sensors, or other, similar occasional events which cannot easily be incorporated into said print/scan filter to create one or more defaced images."

The Examiner has objected to paragraphs 0024, 0029, 0036, and 0037 of Applicant's Specification.

Paragraphs 0024, 0029, 0036 and 0037 have been amended in accordance with the Examiner's suggestions.

Claims 2-5 and 13-16 have been objected to by the Examiner because of certain informalities.

Claims 2-5 and 13-15 have been amended to correct the informalities.

The Examiner has objected to claim 4 because of an informality. Claim 4 has been amended to overcome the Examiner's objections.

Claims 1-11 have been rejected by the Examiner under 35 USC § 112 for failing to comply with the written description. The Examiner is of the opinion that the original disclosure does not show "determining uniqueness of said indicia using information obtained from step f" as recited in claim 1.

Support for the above appears in paragraph 0034 of Applicant's Specification which reads as follows:

[0034] Bit streams such as those describe above comprise ordered sequences of values which are typically, though not necessarily, numeric values associated with words in the address block. (Such bit streams are hereinafter sometimes "characterizing information descriptors" or "descriptors" and such values are hereinafter sometimes "characterizations".) As described above, when an indicium is validated, i.e., tied to the mail piece on which it is printed, at a distant postal facility the descriptor generated from the pristine image and incorporated into the indicium is compared with a descriptor recovered from an image scanned from the address block printed on the mail piece. It will be apparent to those skilled in the art that the recovered image will be transformed with respect to the pristine image by the characteristics of the printing and scanning processes, as well as possibly by the occurrence of occasional events such as blots. Thus, it is important that the algorithm used to characterize the address block be robust; that is that it produces descriptors that match sufficiently when an indicium is valid, and do not match for invalid indicia, despite small differences between the scanned image and the pristine image. It will also be apparent that the robustness of a particular characterizing algorithm can vary for different address blocks.(As a hypothetical example, the above described algorithm based on word length may be less robust for address blocks printed in a small font while algorithms based on the number of outliers, or address block shape may be relatively insensitive to font size.)

Claims 1-11 have been rejected by the Examiner under 35 USC § 112 for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

The word "unique" in step g of claim 1 is not indefinite. The word "unique" in claim 1 has its normal dictionary definition, i.e., one of a kind. Thus in step g of claim 1 the word uniqueness means how does the indium differ from the information obtained from step f.

The Examiner is of the opinion that there is no recitation in claim 1 of printing the indicia or it being on a medium where it can be scanned from. Step a of claim 1 scans

printed material, steps d and e of Claim 1 indicate that the indicia is a component of the printed material.

Claims 1-5 and 7-11 have been rejected by the Examiner under 35 USC § 101 because the claimed invention is directed to non-statutory subject matter.

The claimed invention provides a block of printed text which will be able to distinguish the selected block of text from other such blocks. It provides an image-based characterization of printed material which can be incorporated into an indicia.

Thus statutory subject matter is claimed.

Claim 1 has been rejected by the Examiner under 35 USC § 102(b) as being anticipated by Bradford (U.S. Patent Number 5,805,767).

Bradford disclose the following in the abstract.

> In an optical character recognition (OCR) system an improved method and apparatus for recognizing the character and producing an indication of the confidence with which the character has been recognized. The system employs a plurality of different OCR devices each of which outputs a indicated (or recognized) character along with the individual devices own determination of how confident it is in the indication. The OCR system uses that data output from each of the different OCR devices along with other attributes of the indicated character such as the relative accuracy of the particular OCR device indicating the character to choose the select character recognized by the system and to produce a combined confidence indication of how confident the system is in its recognition.

Bradford discloses in the abstract how to combine an output from a multitude of OCR devices to determine the identity of a single character and a confidence level that can be associated with the accuracy of the determinations.

In Figs. 7A and 7B, Bradford depicts a human-readable description of common PDA results or Fig. 6D for OCR's 1-3.

In Fig 6D, col. 14, line 5 Bradford provides a description between a multiply of OCR device.

Fig. 7A-7B of Bradford provides information on how the word are segmented into characters i.e., number of spacer before the character positioning information. Bradford determines if the three OCR devices are referring (in their determination of character identity) to the same character.

Bradford does not disclose or anticipate steps B, C, D, E, F, and G of claim 1 as amended namely:

b) applying a predetermined set of algorithms for computing characterizing information;

c) determining estimates of robustness for each algorithm in said predetermined set of algorithms;

d) selecting, as a function of said estimates, said combination of descriptors generated by a corresponding combination of said algorithms as said characterizing information;

e) including said characterizing information into a secure indicia;

f) scanning said indicia and said printed block; and

g) determining uniqueness of said indicia using information obtained from step f and those claims dependent thereon.

Bradford discloses how to take OCR and run it against text and determine which way you obtain the highest confidence level in the result.

Bradford does not teach how to modify the OCR engine to achieve a high confidence level.

Applicant takes different algorithms that define different descriptors and access the algorithm to find the descriptor with the descriptors with the highest level of robustness.

The problem that applicant is solving is the problem of finding robust algorithms for determinations of further of a printed text block that are invariant with regard to a multitasks of defects and imperfectness of the printed text block. The problem that Bradford solves is the problem of finding a most plausible identify of a given character providing that there are multiple algorithms designed to determine and identify.

Claims 2-6, 10 and 11 have been rejected by the Examiner under 35 USC § 103(A) as being unpatentable over Bradford in view of Gatto U.S. Patent Number 6,344,906.

Gallo discloses the following in lines 37-45 of col. 10.

> The Image Sensor Control Unit 40 of FiG. 8 is capable of controlling a predetermined number of linear sensors simultaneously, a predetermined number of video outputs simultaneously from a given sensor, or a predetermined number of linear sensors having multiple video outputs simultaneously while retaining the same characteristics described in the paragraphs above. This feature is useful for duplex scanners, color scanners and multi-outputs linear sensors.

Gatto describes different image enhancement techniques Bradford and/or Gatto does not disclose or anticipate a filter designed to degrade the image and determine the robustness of the descriptors.

Gatto discloses the following in col. 8 of line 1-59.

> FIG. 8 shows the architecture of the Universal Document Scanner Controller according to the present invention. The Universal Document Scanner Controller according to the present invention is a circuit 37 that integrates all of the control functions that are required to operate sheet-fed scanners, flatbed scanners, handheld scanners, slides scanners, duplex scanners, drum scanners and 2D still-image scanners. The Universal Document Scanner Controller is composed of twenty specialized units: the Light Source Control Unit 39, the Image Sensor Control Unit 40, The Anti-Skew Auto-Start Unit 41, the Pixel Correction Unit 42, the Black Sides Removal Unit 43, the Adaptative Thresholding Unit 44, the Image Enhancement Unit 45, the Motor Control Unit 46, the Rotary Encoder Control Unit 47, the Clock Generator Unit 48, the Memory Control Unit 49, the Host Interface Control Unit 50, the Packing Unit 51, the Image Compression Unit 52, the Up/Down Sampling Unit 53, the Dithering Unit 54, the General Purpose Status and Control Unit 55, the Power Management Unit 56, the Pattern Recognition Unit 57 and the Mouse Control Unit 58. The twenty specialized units are interconnected to and intercommunicate via an internal bus 38. Additional elements 59, 60, 61 and 62 may be integrated into the Universal Document Scanner Controller according to the present invention. These additional elements are: a Library Synthesized Core CPU 59 (Central Processing Unit), DSP (Digital Signal Processor) and/or Memory, a Print and/or Graphics and/or keyboard Controller 60, a Modem 61 or other communications device and

ADCs (Analog to Digital Converters) and/or DACs (Digital to Analog Converters) 62. Elements 59, 60, 61 and 62 are also connected and communicate via the internal bus 38.

The Universal Document Scanner Controller does not make use of programmed instructions stored in external memory to operate the specialized functions. Indeed, the Universal Document Scanner Controller according to the present invention relies essentially on direct interconnections between electronic gates to perform the specialized functions of at least the units 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57 and 58. Intercommunication between these units is carried out via the internal bus 38. The Universal Document Scanner Controller executes all of the specialized functions at extremely high speed because it makes use of hard-wired or microcoded specialized circuits instead of software programmed instructions. The host processor that communicates with the Universal Document Scanner Controller via the Host Interface Control Unit 50 creates and maintains some configuration tables that are stored in the memory and that are used by the specialized functions. The host processor can carry out some auxiliary functions that do not require very-high speed execution such as interpretation of statuses from the General Purpose Status and Controls Unit 56. In an alternate embodiment, the core CPU 59 uses programmed instructions stored in memory to perform auxiliary tasks or functions that may be required but that do not impact the performance of the Universal Document Scanner Controller.

Gatto describes a universal scanner controller designed to execute specialized functions such as a image sampling, compression correction, thresholding and enhancement at extremely high speeds.

Gatto does not disclose how to use image filters to access the robustness of various image characterizing descriptors.

Claims 7-9 and 12-20 have been rejected by the Examiner under 35 USC § 103(a) as being unpatentable over Bradford and Gatto and further in view of Montgomery et al. (U.S. 2003/0101148).

Montgomery discloses the following in paragraph 0140.

[0140] The indexing identifier can be printed on the label 201 in various formats. For example, FIG. 19 illustrates a two-dimensional barcode 256, which represents the indexing identifier. As can be seen, the two-dimensional barcode 256 is much smaller than two-dimensional barcodes that represent a full postage indicium, because it contains much less information, i.e., a unique identifier. In this case, the unique identifier is

> composed of a postage vendor ID (07), user account number (500361), and piece count (1221st piece generated for this user account). In fact, the information makes the indexing identifier is so minimal, that a one-dimensional barcode can be used. For example, a Code 128 barcode 258 illustrated in FIG. 20, or postal-specific barcode topology, such as the POSTNET or PLANET barcode 260 illustrated in FIG. 21, can be used to represent the postage vendor ID, account number, and piece count of the indexing identifier. Even more alternatively, use of a barcode can be omitted altogether, and the indexing identifier id) can simply be printed on the mail piece as numerical data 262, as illustrated in FIG. 22. The numerical data 262 can be read by Optical Character Recognition (OCR) software, the speed of which is compatible with mail processing requirements. Note that although the examples in FIGS. 19, 20, 21 and 22 used the unique combinations of postage vendor ID, account number and piece count, one could alternately employ a postal authority assigned tracking number as the unique indexing identifier.

Montgomery discloses an underling identifier that can be printed on a mail piece as numeral data.

The art cited by the Examiner does not disclose or anticipate steps B, C, D, E, F, and G of claim 1 as amended and those claims dependent thereon.

The art cited by the Examiner also does not disclose or anticipate paragraphs b, c, and d of claim 12 and those claims dependent thereon.

Claim 12 has been rejected by the Examiner on the ground of non-statutory obviousness type double patenting over claim 1 of application number 10/719,050 now U.S. Patent 7,475,041. Claim 12 has also been rejected by the Examiner on the ground of nonstatutory obviousness type double patenting over claim 1 of U.S. Patent Number 7,424,458.

A Terminal Disclaimer is being filed herewith to overcome the double patenting rejection.

In view of the above claims 1-5, 7-16, and 18-20 are patentable. If the Examiner has any questions would the Examiner please call the undersigned at the telephone number noted below.

Please charge any additional fees that may be required or credit any overpayment to Deposit Account Number 16-1885.

Respectfully submitted,

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